

**From:** "Keator, David" <dbkeator@uci.edu>  
**Subject:** RE: Geometry Subcommittee: sample meshes in need of attention  
**Date:** September 13, 2005 1:44:12 PM EDT  
**To:** "Ziad Saad" <ziad@nih.gov>  
**Cc:** "Simon Warfield" <warfield@bwh.harvard.edu>

---

Hi Ziad,

Below are the performance measures I've collected so far using the C XML parser that comes with the LibXML2 Gnome project (Libxml project home page: <http://xmlsoft.org/>) and a Matlab parser. I tried the test on 2 platforms. Let me know if the measurements aren't clear.

**SUN Blade 2000 dual UltraSPARC-III+ CPUs (900 mhz each), 2 GB RAM, Solaris 9 OS (SunOS 5.9 kernel)**

```
/raid/nifti% xmllint --timing --noout s1_gifti-simple.xml
```

```
Parsing took 681 ms  
Freeing took 0 ms
```

```
/raid/nifti% xmllint --timing --noout s1_gifti-vtk.xml
```

```
Parsing took 1008 ms  
Freeing took 0 ms
```

```
/raid/nifti% xmllint --timing --noout s2_gifti-simple.xml
```

```
Parsing took 1529 ms  
Freeing took 0 ms
```

```
/raid/nifti% xmllint --timing --noout s2_gifti-vtk.xml
```

```
Parsing took 2696 ms  
Freeing took 0 ms
```

MATLAB (<http://www.mathworks.com/matlabcentral/fileexchange/loadFile.do?objectId=1757>)

```
xml_parser('s1_gifti-simple.xml');  
5.1920 sec
```

```
xml_parser('s1_gifti-vtk.xml');  
6.6944
```

```
xml_parser('s2_gifti-simple.xml');  
16.2062
```

```
xml_parser('s2_gifti-vtk.xml');  
22.4862
```

**Dual AMD Opteron 240 1 GB RAM, RHEL 9 (kernel version 2.4.20-30.9smp)**

```
/raid/nifti% xmllint --timing --noout s1_gifti-simple.xml
```

Parsing took 139 ms  
Freeing took 0 ms

```
/raid/nifti% xmllint --timing --noout s1_gifti-vtk.xml
```

Parsing took 294 ms  
Freeing took 0 ms

```
/raid/nifti% xmllint --timing --noout s2_gifti-simple.xml
```

Parsing took 596 ms  
Freeing took 1 ms

```
/raid/nifti% xmllint --timing --noout s2_gifti-vtk.xml
```

Parsing took 707 ms  
Freeing took 2 ms

MATLAB (<http://www.mathworks.com/matlabcentral/fileexchange/loadFile.do?objectId=1757>)

```
xml_parser('s1_gifti-simple.xml');  
4.9628 sec
```

```
xml_parser('s1_gifti-vtk.xml');  
6.2148
```

```
xml_parser('s2_gifti-simple.xml');  
17.0538
```

```
xml_parser('s2_gifti-vtk.xml');  
21.4622
```

Best,

Dave

-----Original Message-----

From: Ziad Saad [mailto:ziad@nih.gov]  
Sent: Wednesday, August 31, 2005 9:26 AM  
To: Keator, David  
Cc: Simon Warfield  
Subject: Geometry Subcommittee: sample meshes in need of attention

Dear David,

Simon Warfield has sent me XML versions of the sample mesh we are using as a toy application to frame the development of the surface mesh and data formats. If I remember correctly, you had volunteered (or at least did not refuse) to evaluate how well XML parsers can deal with the large amount of data in each element and how difficult it would be to include such parsers in C, C++, matlab, etc. applications. Once I have your assessment, I plan to organize a phone conference with the geometry subcommittee to determine whether XML will be acceptable as an exchange format. I am hoping we can clear the format hurdle soon

to open up the way for dealing with surface-related metadata.  
The two surfaces, one markedly bigger than the other, are in simple xml  
and in VTK xml. You can download them from this location:  
[http://afni.nimh.nih.gov/sscc/staff/ziad/Misc\\_Download/GIfTI/  
XML\\_VTK\\_Meshes/](http://afni.nimh.nih.gov/sscc/staff/ziad/Misc_Download/GIfTI/XML_VTK_Meshes/)

I look forward to hearing from you.

Sincerely,  
Ziad S. Saad

Scientific and Statistical Computing Core,  
National Institute of Mental Health, NIH  
10 Center Dr. #1D80  
Bethesda, MD 20892-1148 U.S.A.  
tel: 301-402 1352  
fax: 301- 402 1370